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| 09/922,863   | 08/07/2001  | Seung Jong Choi      | 3449-0170P          | 8526             |
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| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | NATNAEL, PAULO S M  |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2614                |                  |

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/922,863

**Applicant(s)**

CHOI, SEUNG JONG

**Examiner**

Paulos M. Natnael

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Since Fig.1 is disclosed in the background to the invention as a conventional art, the Examiner notes that unless further explanation is given or is forthcoming by the Applicant, Fig. 1 is considered an art with a prior data to the invention. Therefore, even though the Applicant is unwilling to designate Fig.1 by a legend such as "Prior Art" the conventional art is considered conventional, well-known, or commonplace art or device.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted **Conventional** Art (Fig.1) in view of **Sugiyama**, U.S. Pat. No. 5,862,412.

Considering claim 1, the Admitted Conventional Art (ACA) discloses the following claimed subject matter, note;

- b) a memory for storing the bit map data obtained according to the conversion and compress in said data processing part and image data inputted from an arbitrary receiving part, the receiving part receiving one of digital image data and analog image data, is met by memory 101, fig.1;
- c) an image outputting part for reading the image data from the memory, is met by the image outputting part 102, fig.1;

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d) a display processing part for mixing the image data read from the image outputting part and the bit map data converted in format by the data processing part, is met by the display processing part 103, fig.1, which mixes the image data from the image outputting part and text data (which may be converted into bit map data before being storing in the memory, according to the Admitted convention art, page 4, item 19) read from the memory.

Except for;

a) a data processing part for executing bit map conversion, compression, restoration and format-conversion for text data;

Regarding a), the admitted Conventional art (ACA) does not specifically disclose a data processing part for executing conversion compression, restoration and format-conversion for text data. However, the ACA discloses that text data is read from memory and mixed in the display processing part, which text is bit map according to the ACA and that the text data could be converted to bit map data before it is stored in the memory. (ACA, page 4, lines 12-14)

Sugiyama discloses an apparatus for converting document data into bit map data and compressing the display image formed by combining the bit map data and image data. Sugiyama teaches that the character and picture data compression apparatus 2, Fig.1 comprising bit map conversion section 22, bitmap data compression section 25 character data compression section 26, data storage and recording sections 27 and 28, and data display section 29. Sugiyama further discloses in Fig.5 a decompression section where data retrieved from the recording section is decompressed and

transmitted to the display device via the data display section. *Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of the Admitted Conventional Art (Fig.1) by providing the character and picture data compression/decompression apparatus of Sugiyama, so that the compressed bit map data takes less memory to store, thereby making the system less costly and a more compact system over all.*

Considering claim 2, the device as defined in claim 1, wherein the data processing part comprises a bit map converter for determining whether the text data is the bit map data and converting the text data into the bit map data, based upon the determined result, and a bit map compressor for compressing the bit map data by using a predetermined compression coding.

See rejection of claim 1(a). (see also col. 5, line 54 to col. 6, line 6, Sugiyama '412)

Considering claim 3, the device as defined in claim 2, wherein the data processing part further comprises a bit map decompressor for reading the compressed bit map data from the memory to thereby restore the read data to its original bit map data, and a format converter for converting the format of the decompressed bit map data to correspond with display resolution.

Regarding claim 3, see also rejection of claim 1(a). (see also Figures 5 and 7, and col. 2, lines 6-23)

Considering claim 4, the device as defined in claim 1, wherein the text data being at least one among HTML data, DHTML data, XML data, SGML data and bit map data, is met by the disclosure in the APA that teaches the text data may be converted to bit map data before being stored in memory 101; (see ACA, page 4)

Considering claim 5, the device as defined in claim 2, wherein the bit map converter converts the text data into the bit map data, if it is determined that the text data is not the bit map data.

Regarding claim 5, as modified above the combination of the admitted Conventional art and Sugiyama doesn't specifically disclose whether to convert the text data if it is determined that the text data is not the bit map data. However, it would have been obvious to modify the system to check whether or not the text data (character data) is a bit map data and accordingly determine or decide whether to make the conversion, so that unnecessary conversion or processing would be avoided when the data is already in a bit map format, i.e., there would be no need for converting to bit map data if the data is already in a such a format and this processing step would be bypassed.

Considering claim 6, the device as defined in claim 2, wherein the bit map converter bypasses the text data if it is determined that the text data is the bit map data;

Regarding claim 6, see rejection of claim 5;

Considering claim 7, the device as defined in claim 2, wherein the predetermined compression coding is a run-length compression coding.

Regarding claim 7, as modified above the combination of the Admitted prior art and Sugiyama does not specifically disclose a run-length compression coding. However, examiner takes Official Notice in that run-length compression is well known in the art and as such it would have been obvious to modify the references by using a compression technique such as the run-length coding compression so that the DC-balancing or DC-wondering of the signal would greatly improve.

Considering claim 8, wherein the memory stores either first bit map data or second bit map data, is met by the memory 101, fig.1, which stores data input to it from the D/A converter which would be received consecutively as indicated above.

Considering claim 9, the claimed wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

Regarding claim 9, as modified above in claim 1, the combination of the ACA and Sugiyama disclose bit map data conversion, compression, decompression as well as format conversion. However, as modified above, the combination of the APA and Sugimaya do not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, processing the bit map data one after the other or consecutively would be obvious to

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those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system as modified above by providing a consecutive bit map conversion process so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

3. Claims **11-16, 18, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sugiyama**, U.S. Pat. No. 5,862,412 in view of **Horton**, U.S. Pat. No. 5,969,770.

Considering claim **11**, a data processing device in a digital TV, comprising:

a) a bit map converter for determining whether the text data is bit map data, and converting the text data into the bit map data based upon the determined result, is met by bit map conversion section 22 and the control section 21, fig. 1;

b) a bit map compressor for compressing the bit map data by using a predetermined compression coding, is met by the bit map data compression section 25, fig.1; (see col. 8, lines 60-64)

c) a bit map decompressor for reading the compressed bit map data from the memory for restoring the read data back to its original bit map data, is met by decompression section 111, fig.5, which reads the compressed data from the recording apparatus 110, (also in fig.5).



Except for;

d) a format converter for converting the format of the decompressed bit map data to correspond with display resolution;

Regarding d), the reference of Sugiyama discloses data display section 105, fig.5 for preparing the data for display. Sugiyama does not specifically disclose a format converter. However, format converters for bit map data such as Sugiyama's are notoriously well known in the art. In that regard, Horton discloses animated "on-screen" display provisions for an MPEG video signal processing system, and teaches a bit map OSD format converter (figs. 2 & 3) which converts YUV 4:4:4 data into YUV 4:2:2 format to conform to the desired display resolution. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Sugiyama by providing the a bit map format converter of Horton, in order for the data display section 29 transmit the data corresponding to a desired display resolution or format, so that the image is displayed properly conforming to the desired resolution.

Considering claim 12, the device as defined in claim 11, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data, is met by the disclosure in the APA that teaches the text data may be converted to bit map data before being stored in memory 101; (see APA, page 4)

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Considering claim 13, the device as defined in claim 11, wherein the bit map converter converts the text data the bit map data if it is determined that the text data is not bit map data;

Regarding claim 13, Sugiyama doesn't specifically disclose whether to convert the text data if it is determined that the text data is not the bit map data. However, it would have been obvious to modify the system to check whether or not the text data is a bit map data and accordingly determine or decide whether to make the conversion so that unnecessary conversion or processing would be avoided when the data is already in a bit map format.

Considering claim 14, the device as defined in claim 11, wherein the bit map converter bypasses the text data if it is determined that the text data is bit map data.

Regarding claim 14, see rejection of claim 13.

Considering claim 15, the device as defined in claim 11, wherein the predetermined compression coding is a run-length compression coding.

Sugiyama does not specifically disclose a run-length compression coding. However, the run-length compression is well known in the art and as such it would be an obvious matter of a design choice to modify the reference by using the notoriously well-known run-length method of compression, since applicant has not disclosed that the run-length compression solves any stated problem or is for any particular purpose,

and it appears that any type of compression method would function or perform equally well.

Considering claim 16, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

Regarding claim 16, the combination of Sugiyama and Horton as modified above in claim 11, do not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, given a reasonably broad interpretation the processing of the bit map data using one or the other, or one bit map data after another consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Sugiyama by providing a consecutive bit map conversion processing so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

Considering claim 18, a data processing device in a digital TV having a display, comprising:

a) a bit map converter for determining whether text data is bit map data and converting the text data into bit map data, based upon the determined result; a format converter for converting the format of the decompressed bit map data to correspond with display resolution; a bit map compressor for compressing the bit map data by using a predetermined compression coding; a bit map decompressor for reading the

compressed bit map data from the memory for restoring the read data back to its original bit map data.

Regarding claim 18, see rejection of claim 11.

Considering claim 19, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

Regarding claim 19, the combination of the Sugiyama and Horton, as modified above in claim 18, disclose bit map data conversion, compression, decompression as well as format conversion. However, the combination does not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, processing the bit map data one after the other or consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system as modified above by providing a consecutive bit map conversion process so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

4. Considering claims 10, 17 and 20, the claimed wherein the format converter adjusts the resolution by integrating real number times to either a horizontal direction or a vertical direction of the decompressed bit map data;

Regarding claims 10, 17 and 20, the examiner takes Official Notice in that format converters are notoriously well known for adjusting the resolution of an image signal in

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both the horizontal and vertical positions, such resolutions as **1920x1080**, **1280x720**, **640x480**, or **704x480**, etc., in either the **16x9** or **4x3** aspect ratio, and therefore it would have been obvious to the skilled in the art at the time the invention was made to modify the conventional art or Sugiyama by providing a format converter in order to realize a desired resolution to display on the display device.

### ***Response to Arguments***

5. Applicant's arguments filed April 22, 2004 have been fully considered but they are not persuasive.

#### **Applicant's Arguments**

a) This alleged motivation is nothing more than a broad conclusory statement about compression and decompression of bit map data which did not motivate the developers of the conventional art to modify the conventional art and does not constitute "evidence" of proper motivation to make the alleged modification of the Conventional art...The office action does not make out a prima facie case of obviousness ...

b) Sugiyama is concerned with "document data", and is not concerned with digital TVs that receive TV broadcasts. The office action fails to explain why one of ordinary skill in the art would look to Sugiyama to modify the convention TV display for TV broadcasts.

c) Furthermore, there is no indication of record that the conventional art has a problem to be solved.

d) In the first place, Sugiyama does not disclose a "digital TV having a display" as recited. In the second place, Sugiyama does not disclose a format converter for converting the format of the decompressed bit map data to correspond with display resolution.

e) The office action fails to explain why one of ordinary skill in the art would be motivated to use Horton's digital satellite television system using packet streams which does not address changing display resolution to modify Sugiyama.

#### Examiner Response

a) On page 3 of the specification, the applicant admits that, "Fig. 1 illustrates a *conventional* image display device in a digital TV." The term "Conventional" means according to Merriam Webster's Collegiate Dictionary, 10<sup>th</sup> edition, (a) "according with, sanctioned by, or based on convention; (Convention means an established technique, practice, or device). (b) lacking originality or individuality: trite; (3) ordinary, commonplace. Therefore, the admitted conventional art or device is a well-known, commonplace device or art. Thus, the rejection still applies.

b) Contrary to Applicant's assertion, Sugiyama deals, not only with converting document data, but also with "moving picture data of the bit map form" as well, and explains that "a display image composition section composes the document data of the bit map form, still picture data of the bit map form and a first one frame of moving picture data into a display image of the first page, and then produces, for each of the succeeding frames, a display image wherein the moving picture data portion in the display image of the first page is replaced with moving picture data of the frame. (see abstract) (emphasis added by examiner)

c) The problem of having large memory space can be cited, as Applicant himself shows on page 7 of the specification.

d) First of all, the claims do not recite "the bit map converter for digital signal in a digital TV..." The claims simply recite "the bit map converter" which can be used anywhere, and necessarily on digital TV signal only. Thus, applicant is arguing something that is not present in the claims. Secondly, applicants may not attack references individually when the rejection was made in combination of two or more references as in this case. The combination shows that the Sugiyama reference would have been obvious to the skilled in the art to modify with a format converter of Horton's.

e) The reference of Sugiyama discloses data display section 105, fig.5 for preparing the data for display. Sugiyama does not specifically disclose a format converter. However,

format converters for bit map data such as Sugiyama's are notoriously well known in the art. In that regard, Horton discloses animated "on-screen" display provisions for an MPEG video signal processing system, and teaches a bit map OSD format converter (figs. 2 & 3) which converts YUV 4:4:4 data into YUV 4:2:2 format to conform to the desired display resolution. Therefore, it would have been obvious to modify the system of Sugiyama by providing the a bit map format converter of Horton, in order for the data display section 29 transmit the data corresponding to a desired display resolution or format, so that the image is displayed properly conforming to the desired resolution.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Kim, U.S. Patent No. **6,788,347** discloses an HDTV down-conversion system comprising format converter "which may be programmed to use a plurality of methods to convert the aspect ratio of the input signal for display on a display device having a different aspect ratio."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**PAULOS M. NATNAEL**  
**PATENT EXAMINER**

PMN  
December 6, 2004